

SEQUENCE LISTING

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Hegedus, Dwayne

<120> Repressor Mediated Selection Strategies

<130> 11089.0003.NPUS01

<150> 60/416,369

<151> 2002-10-03

<160> 61

<170> PatentIn version 3.1

<210> 1

<211> 472

<212> DNA

<213> artificial

<220>

<223> Synthetic Ros optimized for plant expression

<400> 1

gcggatcccc gggtatgact gagactgctt acggtaacgc tcaggatctt cttgttgagc	60
ttactgctga tatcggttgc g cttacgttt ctaaccacgt tgttcctggt actgagcttc	120
ctggacttat ctctgatggt catactgcac tttctggaac atctgctcct gcttctgttg	180
ctgttaacgt tgagaagcag aagcctgctg tttctgttcg taagtctggt caggatgac	240
atatcgtttg tttggagtgt ggtggttctt tcaagtctct caagcgtcac ct tactactc	300
atcactctat gactccagag gagtatagag agaagtggga tcttcctggt gattacccta	360
tggttgctcc tgcttacgct gaggctcggt ctcgtctcgc taaggagatg ggtctcggtc	420
agcgtcgtaa ggctaaccgt ccaaaaaaga agcgtaaagt ctgagagctc gc	472

<210> 2

<211> 678

<212> DNA

<213> artificial

<220>

<223> Synthetic Tet optimized for plant expression

<400> 2

ggtaccgaga aaatgtctag attagataaa agtaaagtga ttaacagcgc attagagctg	60
cttaatgagg tcggaatcga gggcttaacg acccgtaaac tcgcgcagaa gctaggagta	120
gagcagccta cggtgtactg gcatgttaag aacaagcggg ctttgctcga cgccctcgcg	180
attgagatgt tagacaggca ccatactcac ttctgccctc tcgaagggga gagctggcaa	240

gatttctctcc gtaacaacgc taagtccttc agatgtgctc tcctatccca tcgcgacgga 300
gcaaaagtcc atctgggtac acggcctaca gagaaac agt atgagactct cgaaaatcaa 360
ctggcctttc tgtgccaaca gggtttctca ctagagaatg cgctttacgc actctcagct 420
gtggggcatt ttactcttgg ttgcgttttg gaggatcaag agcatcaagt cgctaaggaa 480
gagagggaaa cacctactac tgatagtatg cgcgcacttc ttcgacaagc catcgaactt 540
tttgatcacc aggggtgcaga gccagccttc ttgttcggcc ttgaattgat catatgcgga 600
ttggaaaagc agcttaaagt tgaatcgggg tctcttaagc caaaaaagaa gcgtaaggtc 660
tgacttaagt gaatcgat 678

<210> 3
<211> 149
<212> PRT
<213> Artificial

<220>
<223> Synthetic Ros

<400> 3

Met Thr Glu Thr Ala Tyr Gly Asn Ala Gln Asp Leu Leu Val Glu Leu
1 5 10 15

Thr Ala Asp Ile Val Ala Ala Tyr Val Ser Asn His Val Val Pro Val
20 25 30

Thr Glu Leu Pro Gly Leu Ile Ser Asp Val His Thr Ala Leu Ser Gly
35 40 45

Thr Ser Ala Pro Ala Ser Val Ala Val Asn Val Glu Lys Gln Lys P ro
50 55 60

Ala Val Ser Val Arg Lys Ser Val Gln Asp Asp His Ile Val Cys Leu
65 70 75 80

Glu Cys Gly Gly Ser Phe Lys Ser Leu Lys Arg His Leu T hr Thr His
85 90 95

His Ser Met Thr Pro Glu Glu Tyr Arg Glu Lys Trp Asp Leu Pro Val
100 105 110

Asp Tyr Pro Met Val Ala Pro Ala Tyr Ala Glu A la Arg Ser Arg Leu
115 120 125

Ala Lys Glu Met Gly Leu Gly Gln Arg Arg Lys Ala Asn Arg Pro Lys
130 135 140

Lys Lys Arg Lys Val
145

<210> 4
<211> 216
<212> PRT
<213> Artificial

<220>
<223> Synthetic Tet

<400> 4

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1 5 10 15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
20 25 30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
35 40 45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
50 55 60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65 70 75 80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
85 90 95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
100 105 110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
115 120 125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
130 135 140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145 150 155 160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
165 170 175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
180 185 190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser Leu
195 200 205

Lys Pro Lys Lys Lys Arg Lys Val
210 215

<210> 5
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Actin2 promoter sense primer

<400> 5
aagcttatgt atgcaagagt cagc 24

<210> 6
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Actin2 promoter anti -sense primer

<400> 6
ttgactagta tcagcctcag ccat 24

<210> 7
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Ros sense primer

<400> 7
gcggatccga tgacggaaac tgcatac 27

<210> 8
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Ros anti -sense primer

<400> 8
gcaagcttca acggttcgcc ttgcg 25

<210> 9
<211> 36
<212> DNA
<213> Artificial

<220>
<223> iaaH sense primer

<400> 9
tgcggatgca taagcttgct gacattgcta gaaaag 36

<210> 10
<211> 26
<212> DNA
<213> Artificial

<220>
<223> iaaH anti-sense primer

<400> 10
cggggatcct ttcagggcca tttcag 26

<210> 11
<211> 43
<212> DNA
<213> Artificial

<220>
<223> Tet-FI primer
<400> 11
gatcactcta tcagtgatag agtgaactct atcagtgata gag 43

<210> 12
<211> 41
<212> DNA
<213> Artificial

<220>
<223> Tet-RI primer

<400> 12
cgctctatca ctgatagagt tcactctatc actgatagag t 41

<210> 13
<211> 26
<212> DNA
<213> Artificial

<220>
<223> iaaH ORF sense primer

<400> 13
gctctagaat ggtgcccatt acctcg 26

<210> 14
<211> 26
<212> DNA
<213> Artificial

<220>
<223> iaaH ORF anti -sense primer

<400> 14
gcgagctcaw atggcttytt cyaatg 26

<210> 15
<211> 59
<212> DNA
<213> Artificial

<220>
<223> Ros -OP1

<400> 15
gatcctatat ttcaatttta ttgtaatata gctatatttc aattttattg taatataat 59

<210> 16
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Ros -OP2

<400> 16
cgattatatt acaataaaat t gaaatatag ctatattaca ataaaattga aatatag 57

<210> 17
<211> 25
<212> DNA
<213> Agrobacterium tumefaciens

<400> 17
tatatttcaa ttttattgta atata 25

<210> 18
<211> 27
<212> DNA
<213> Agrobacterium tumefaciens

<400> 18
tataattaaa atattaactg tcgcatt 27

<210> 19
<211> 429
<212> DNA
<213> Agrobacterium tumefaciens

<400> 19
 atgacggaaa ctgcatacgg taacgcccag gatctgctgg tcgaactgac ggcggatatt 60
 gtggctgcct atgtagcaa ccacgtcgtt ccggtaactg agcttcccgg ccttatttcg 120
 gatgttcata cggcactcag cggaacatcg gcaccggcat cggtagcggt caatgttgaa 180
 aagcagaagc ctgctgtgtc gggtcgcaag tcgggtcagg acgatcatat cgtctgtttg 240
 gaatgtggtg gtcgtttcaa gtcgctcaaa cgccacctga cgacgcatca cagcatgacg 300
 ccggaagaat atcgcgaaaa atgggatctg ccggtcgatt atccgatggt tgctcccgcc 360
 tatgccgaag cccgttcgcg gtcgccaag gaaatgggtc tcggtcagcg ccgcaaggcg 420
 aaccgttga 429

<210> 20
 <211> 624
 <212> DNA
 <213> escherichia coli

<400> 20
 atgtctagat tagataaaag taaagtgatt aacagcgcac tagagctgct taatgaggtc 60
 ggaatcgaag gcctaacaac ccgtaaactt gcgcagaagc tcggggtaga gcagcctaca 120
 ttgtattggc atgtaaaaaa taagcggggc ctgctcgacg cgtagccat tgagatgtta 180
 gataggcacc atactcactt ttgcccttta gaaggggaaa gctggcaaga ttttttacgt 240
 aataacgcta aaagtttttag atgtgcttta ctaagtcacg gcgatggagc aaaagtacat 300
 ttaggtacac ggcctacaga aaaacagtat gaaactctcg aaaatcaatt agccttttta 360
 tgccaacaag gtttttcact agagaatgca ttatatgcac tcagcgtgtg ggggcatttt 420
 acttttaggtt gcgtattgga agatcaagag catcaagtcg ctaaagaaga aagggaacaa 480
 cctactactg atagtatgcc gccattatta cgacaagcta tcgaattatt tgatcaccaa 540
 ggtgcagagc cagccttctt attcggcctt gaatt gatca tatgcggatt agaaaaacaa 600
 cttaaattgt aaagtgggtc ttaa 624

<210> 21
 <211> 142
 <212> PRT
 <213> Agrobacterium tumefaciens

<400> 21

Met Thr Glu Thr Ala Tyr Gly Asn Ala Gln Asp Leu Leu Val Glu Leu
 1 5 10 15

Thr Ala Asp Ile Val Ala Ala Tyr Val Ser Asn His Val Val Pro Val
 20 25 30

Thr Glu Leu Pro Gly Leu Ile Ser Asp Val His Thr Ala Leu Ser Gly
35 40 45

Thr Ser Ala Pro Ala Ser Val Ala Val Asn Val Glu Lys Gln Lys Pro
50 55 60

Ala Val Ser Val Arg Lys Ser Val Gln Asp Asp His Ile Val Cys Leu
65 70 75 80

Glu Cys Gly Gly Ser Phe Lys Ser Leu Lys Arg His Leu Thr Thr His
85 90 95

His Ser Met Thr Pro Glu Glu Tyr Arg Glu Lys Trp Asp Leu Pro Val
100 105 110

Asp Tyr Pro Met Val Ala Pro Ala Tyr Ala Glu Ala Arg Ser Arg Leu
115 120 125

Ala Lys Glu Met Gly Leu Gly Gln Arg Arg Lys Ala Asn Arg
130 135 140

<210> 22
<211> 207
<212> PRT
<213> Escherichia coli

<400> 22

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1 5 10 15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
20 25 30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
35 40 45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
50 55 60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65 70 75 80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
85 90 95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
100 105 110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
115 120 125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
130 135 140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145 150 155 160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
165 170 175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
180 185 190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser
195 200 205

<210> 23
<211> 10
<212> DNA
<213> Artificial

<220>
<223> Consensus Ros operator sequence

<400> 23
watdhwkmar

10

<210> 24
<211> 7
<212> PRT
<213> SV40

<400> 24

Pro Lys Lys Lys Arg Lys Val
1 5

<210> 25
<211> 109
<212> DNA
<213> Artificial

<220>
<223> Ros-OPDS

<400> 25
atctccactg acgtaaggga tgacgcacaa tcccactatc cttegcaaga cccttcctct 60
atataatata tttcaatttt attgtaatat aacacggggg actctagag 109

<210> 26
<211> 113
<212> DNA
<213> Artificial

<220>
<223> Ros -OPDA

<400> 26
gatcctctag agtccccgt gttatattac aataaaattg aaatatatta tatagaggaa 60
gggtcttgcg aaggatagtg ggattgtgcy tcattccctta cgtcagtga gat 113

<210> 27
<211> 138
<212> DNA
<213> Artificial

<220>
<223> p74-315 sequence from EcoRV to ATG of GUS

<400> 27
gatattctcca ctgacgtaag ggatgacgca caatcccact atccttcgca agacccttcc 60
tctatataat atatttcaat tttattgtaa tataacacgg gggactctag aggatccccg 120
gggtggtcagt cccttatg 138

<210> 28
<211> 107
<212> DNA
<213> Artificial

<220>
<223> Ros -OPUS

<400> 28
atctccactg acgtaaggga tgacgcaca a tctatatttc aattttattg taatatacta 60
tataaggaag ttcatttcat ttggagagaa cacgggggac tctagag 107

<210> 29
<211> 111
<212> DNA
<213> Artificial

<220>
<223> Ros -OPUA

<400> 29
gatcctctag agtccccgt gttctctcca aatgaaatga acttccttat atagtatatt 60

acaataaaat tgaaatatag attgtgcgtc atcccttacg tcagtggaga t 111

<210> 30
 <211> 136
 <212> DNA
 <213> Artificial

<220>
 <223> p74-316 sequence from EcoRV to ATG of GUS

<400> 30
 gatattctcca ctgacgtaag ggatgacgca caatctatat t tcaatttta ttgtaatata 60
 ctatataagg aagttcattt catttggaga gaacacgggg gactctagag gatccccggg 120
 tggtcagtcc cttatg 136

<210> 31
 <211> 108
 <212> DNA
 <213> Artificial

<220>
 <223> Ros-OPPS

<400> 31
 atctccactg acgtaaggga tgacgcacaa tctatatattc aattttattg taatatacta 60
 tataatatat ttcaatttta ttgtaatata acacggggga ctctagag 108

<210> 32
 <211> 112
 <212> DNA
 <213> Artificial

<220>
 <223> Ros-OPPA

<400> 32
 gatcctctag agtccc cegt gttatattac aataaaattg aaatatatta tatagtatat 60
 tacaataaaa ttgaaatata gattgtgcgt catcccttac gtcagtggag at 112

<210> 33
 <211> 137
 <212> DNA
 <213> Artificial

<220>
 <223> p74-309sequence from EcoRV to ATG of GUS

<400> 33
 gatattctcca ctgacgtaag ggatgacgca caatctatat ttcaatttta ttgtaatata 60
 ctatataata tatttcaatt ttattgtaat ataacacggg ggactctaga ggatccccgg 120

gtggtcagtc ccttatg 137

<210> 34
<211> 237
<212> DNA
<213> Artificial

<220>
<223> p74-118 sequence from EcoRV to ATG of GUS

<400> 34
gatatctcca ctgacgtaag ggatgacgca caatcccact atccttcgca agacccttcc 60
tctatataat atatttcaat tttattgtaa tataacacgg gggactctag aggatcctat 120
atttcaattt tattgtaata tagctatatt tcaattttat tgtaatatataa tcgatttcca 180
acccgggggta ccgaattcct cgagtctaga ggatccccgg gtggtcagtc ccttatg 237

<210> 35
<211> 235
<212> DNA
<213> Artificial

<220>
<223> p 74-117 sequence from EcoRV to ATG of GUS

<400> 35
gatatctcca ctgacgtaag ggatgacgca caatctatat ttcaatttta ttgtaatatata 60
ctatataagg aagttcattt catttgagaga gaacacgggg gactctagag gatcctatat 120
ttcaatttta ttgtaatatata gctatatattc aattttattg taatataatc gatttcgaac 180
ccgggggtacc gaattcctcg agtctagagg atccccgggt ggtcagtcctc ttatg 235

<210> 36
<211> 16
<212> PRT
<213> Arabidopsis

<400> 36

Arg Ile Glu Asn Thr Thr Asn Arg Gln Val Thr Phe Cys Lys Arg Arg
1 5 10 15

<210> 37
<211> 18
<212> PRT
<213> Tobacco

<400> 37

Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser Arg Ile Arg
1 5 10 15

Lys Lys

<210> 38
<211> 20
<212> PRT
<213> Tobacco

<400> 38

Lys Lys Arg Ala Arg Leu Val As n Arg Glu Ser Ala Gln Leu Ser Arg
1 5 10 15

Gln Arg Lys Lys
20

<210> 39
<211> 18
<212> PRT
<213> Maize

<400> 39

Arg Lys Arg Lys Glu Ser Asn Arg Glu Ser Ala Arg Arg Ser Arg Ty r
1 5 10 15

Arg Lys

<210> 40
<211> 45
<212> PRT
<213> Potyvirus

<220>
<221> MISC_FEATURE
<222> (11)..(42)
<223> where Xaa is any amino acid

<400> 40

Lys Lys Asn Gln Lys His Lys Leu Lys Met Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Lys Arg Lys
35 40 45

<210> 41
<211> 17
<212> PRT
<213> Xenopus

<400> 41

Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys
1 5 10 15

Ile

<210> 42
<211> 17
<212> PRT
<213> Xenopus

<400> 42

Lys Arg Ile Ala Pro Asp Ser Ala Ser Lys Val Pro Arg Lys Lys Thr
1 5 10 15

Arg

<210> 43
<211> 17
<212> PRT
<213> Xenopus

<400> 43

Lys Arg Lys Thr Glu Glu Glu Ser Pro Leu Lys Asp Lys Asp Ala Lys
1 5 10 15

Lys

<210> 44
<211> 17
<212> PRT
<213> Rat

<400> 44

Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys
1 5 10 15

Lys

<210> 45
<211> 17
<212> PRT
<213> Human

<400> 45

Arg	Lys	Cys	Leu	Gln	Ala	Gly	Met	Asn	Leu	Glu	Ala	Arg	Lys	Thr	Lys
1				5					10					15	

Lys

<210> 46
<211> 17
<212> PRT
<213> Human

<400> 46

Arg	Lys	Cys	Leu	Gln	Ala	Gly	Met	Asn	Leu	Glu	Ala	Arg	Lys	Thr	Lys
1				5					10					15	

Lys

<210> 47
<211> 17
<212> PRT
<213> Chicken

<400> 47

Arg	Lys	Cys	Cys	Gln	Ala	Gly	Met	Val	Leu	Gly	Gly	Arg	Lys	Phe	Lys
1				5					10					15	

Lys

<210> 48
<211> 17
<212> PRT
<213> Human

<400> 48

Arg	Lys	Cys	Tyr	Glu	Ala	Gly	Met	Thr	Leu	Gly	Ala	Arg	Lys	Ile	Lys
1				5					10					15	

Lys

<210> 49
 <211> 17
 <212> PRT
 <213> Chicken

<400> 49

Arg Arg Cys Phe Glu Val Arg Val Cys Ala Cys Pro Gly Arg Asp Arg
 1 5 10 15

Lys

<210> 50
 <211> 236
 <212> DNA
 <213> Artificial

<220>
 <223> p74-114 sequence from EcoRV to ATG of GUS

<400> 50
 gatatctcca ctgacgtaag ggatgacg ca caatctatat ttcaatttta ttgtaatata 60
 ctatataata tatttcaatt ttattgtaat ataacacggg ggactctaga ggatcctata 120
 tttcaatttt attgtaatat agctatatatt caattttatt gtaatataat cgatttcgaa 180
 cccgggggtac cgaattcctc gagtctagag gatccccggg tggtcagtcc cttatg 236

<210> 51
 <211> 33
 <212> DNA
 <213> Artificial

<220>
 <223> synRos forward primer

<400> 51
 gcggatccat gactgagact gcttacggta acg 33

<210> 52
 <211> 29
 <212> DNA
 <213> Artificial

<220>
 <223> synRos reverse primer

<400> 52
 gcgagctcga ccttacgctt cttttttgg 29

<210> 53
 <211> 26

<212> DNA
<213> Artificial

<220>
<223> wtRos forward primer

<400> 53
cgggatccat gacggaaact gcatac 26

<210> 54
<211> 24
<212> DNA
<213> Artificial

<220>
<223> wtRos reverse primer

<400> 54
gcgagctcac ggttcgcctt gcgg 24

<210> 55
<211> 108
<212> DNA
<213> Artificial

<220>
<223> Ros oligonucleotide for Southwestern

<400> 55
atctccactg acgtaaggga tgacgcacaa tctatatctc aattttattg taatatacta 60
tataatatat ttcaatttta ttgtaatata acacggggga ctctagag 108

<210> 56
<211> 43
<212> DNA
<213> Artificial

<220>
<223> Tet oligonucleotide for Southwestern

<400> 56
gatcactcta tcagtgatag agtgaactct atcagtgata gag 43

<210> 57
<211> 10
<212> DNA
<213> Agrobacterium tumefaciens

<400> 57
tatatttcaa 10

<210> 58
<211> 10
<212> DNA

<213> Agrobacterium tumefaciens

<400> 58
tatattacaa

10

<210> 59
<211> 10
<212> DNA
<213> Agrobacterium tumefaciens

<400> 59
tataattaaa

10

<210> 60
<211> 10
<212> DNA
<213> Agrobacterium tumefaciens

<400> 60
aatgcgacag

10

<210> 61
<211> 10
<212> DNA
<213> Artificial

<220>
<223> Ros operator sequence (1)

<400> 61
tatahttcaa

10